

APPENDIX A. Physical data San Juan and Animas rivers diversion structures.

Diversion Name	Utah Pipe Diversion 3	Utah Pipe Diversion 2	Utah Pipe Diversion 1
River Name	San Juan River	San Juan River	San Juan River
River Mile: San Juan River = from Lake Powell Animas River = from confluence with San Juan	80.7	81.0	82.3
State	UT	UT	UT
County	San Juan	San Juan	San Juan
Visit Date	7/30/15	7/30/15	7/30/15
Visit Time	9:10 AM	9:00 AM	8:45 AM
Visit Note	Visited via boat; participated in phone interview on 12/14/15.	Visited via boat; Declined to participate in phone interview on 12/14/15.	Visited via boat. Did not return call/message left on 12/10/15.
Diversion/Discharge Data Available/Collected	No	No	No
Entity	Bill Davis	Melvin and Bill (son) Gaines	Roger Atcity
Type of Entity	Individual	Individual	Individual
Type of Diversion	Agricultural Diversion	Agricultural Diversion	Agricultural Diversion
Entity Address	Abajo Archaeology, US Highway 191, Bluff, UT 84512	PO Box 335, Bluff, UT 84512	c/o Resolute Natural Resources Company, 5 Miles N Montezuma Creek, Montezuma Creek, UT 84534
ContactA_Name	Bill Davis	Melvin and Bill (son) Gaines	Roger Atcity
ContactA_Title	Owner		
ContactA_Phone	4356722209	4356722246	4356513277
ContactA_AltpPhone	4356722272		
ContactA_Email			
ContactB_Name			
ContactB_Title			
ContactB_Phone			
ContactB_AltpPhone			
ContactB_Email			
Location (GPS Coordinates)	629703.2278 E 4126645.1652 N; Zone 12 N, NAD 83	630146.2717 E 4126520.8096 N; Zone 12 N, NAD 83	632310.4256 E 4126904.5572 N; Zone 12 N, NAD 83
Access Route	Private property south of Utah State Route 162	Private property south of Utah State Route 162	Private property south of Utah State Route 162
Head/Grade Control Type (in main channel)	NA	NA	NA
Head/Grade Control Condition	NA	NA	NA
Head/Grade Control Maintenance	NA	NA	NA
Head/Grade Control Notes			
River Width at Diversion Channel Intake	53 m	52 m	61 m
River Width Notes	Measured from aerial photo.	Measured from aerial photo.	Measured from aerial photo.
Diversion Channel Intake Width	30 cm	30 cm	30 cm
Diversion Channel Intake Width Notes	12" diameter rubber pipe (30 cm)	Probably 12" diameter (30 cm)	Probably 12" diameter (30 cm)
Diversion Channel Intake Distance from Headgate	NA	NA	NA
Diversion Channel Notes			
First Spillway Location	NA	NA	NA
Spillway Type	NA	NA	NA
Spillway Width	NA	NA	NA
Head Gate Type	NA	NA	NA
Head Gate Count	NA	NA	NA
Open at time of field visit	NA	NA	NA
Head Gate Width Each	NA	NA	NA
Head Gate Normal Operating Position	NA	NA	NA
Screen Type	Milk crate attached to end of pipe	Unknown	Unknown
Screen Condition	Needs replacement often	Unknown	Unknown
Screen Height	NA	Unknown	Unknown
Screen Width	NA	Unknown	Unknown
Screen Mesh Opening	Approximately 3 cm x 3 cm (1" x 1")	Unknown	Unknown
Inlet Pipe at Headgate	NA	NA	NA
Maximum Diversion Rate cfs	NA	Unknown	Unknown
Normal Diversion Rate cfs	1-2 cfs	Unknown	Unknown

APPENDIX A. continued (San Juan River).

Diversion Name	APS Four Corners Units 4 & 5	Jewett Valley Ditch	PNM San Juan Generating Station
River Name	San Juan River	San Juan River	San Juan River
River Mile: San Juan River = from Lake Powell Animas River = from confluence with San Juan	163.7	166.3	166.7
State	NM	NM	NM
County	San Juan	San Juan	San Juan
Visit Date	NA	8/20/15	NA
Visit Time	NA	1:00 PM	NA
Visit Note	Did not visit; collected data and physical information via phone and email.	Field visit successfully completed.	Did not visit; collected data and physical information via phone and email.
Diversion/Discharge Data Available/Collected	Yes, monthly totals only	Yes, daily average	Yes, annual totals only
Entity	Arizona Public Service Company	Jewett Valley Ditch	Public Service Company of New Mexico, San Juan Generating Station
Type of Entity	Corporation	Ditch Association	Corporation
Type of Diversion	Industrial Diversion	Agricultural Diversion	Industrial Diversion
Entity Address	P.O. Box 355, Fruitland, NM 87416	PO Box 91, Water Flow, NM 87421	6800 N County Rd, Waterflow, NM 87421
ContactA_Name		Jim Rogers	Mike Greene
ContactA_Title	Project Manager	Irrigator	
ContactA_Phone	5053308799	5053300047	5059334214
ContactA_AltPhone	5055988210		5052412188
ContactA_Email	richard.grimes@aps.com	jimrogers923@gmail.com	mike.greene@pnm.com
ContactB_Name			
ContactB_Title			
ContactB_Phone			
ContactB_AltPhone			
ContactB_Email			
Location (GPS Coordinates)	726657.2029 E 4069335.3439 N; Zone 12 N, NAD 83	730391.8142 E 4070199.2245 N; Zone 12 N, NAD 83	730930.1539 E 4070246.6210 N; Zone 12 N, NAD 83
Access Route			
Head/Grade Control Type (in main channel)	Concrete weir and steel pilings across main river channel.	Boulders and native bed material that extends across main river channel adjacent to diversion channel inlet.	Concrete dam across river, and concrete rip-rap on opposite bank from diversion.
Head/Grade Control Condition		Fair/Functioning but adequate head may not be available at lower river flows.	Good/Functioning
Head/Grade Control Maintenance	None	Requires maintenance about every 5 years.	No regular maintenance required.
Head/Grade Control Notes			
River Width at Diversion Channel Intake	38 m	63 m	52 m
River Width Notes	38 m wide main channel.	63 m wide main channel.	52 m wide main channel.
Diversion Channel Intake Width	8.5 m	6 m	6.4 m
Diversion Channel Intake Width Notes	8.5 m	6 m	6.4 m
Diversion Channel Intake Distance from Headgate	0	37 m	0
Diversion Channel Notes		There is no fish passage to allow escape from the diversion ditch upstream of the newer headgate, except back upstream.	
First Spillway Location	"sluice channel" at intake	At old headgate and spillway at old headgate at river channel; newer headgate/spillway approximately 37 m downstream of old headgate.	Just downstream of intake structure, all housed within the concrete structure.
Spillway Type	Sluiceway, no gate	Old spillway is radial gate. Active spillway (radial gate) is 37 m downstream of headgate. This downstream headgate/spillway essentially replaces the older structure located at the river channel.	PNM engineering drawings show "sluice channel" at intake.
Spillway Width	6 m	3.6 m	4.5 m
Head Gate Type	Concrete structure with slide gates	Concrete with square slide gates; won't seal. Old/need of replacement. Downstream sluice used to control flow rate.	Concrete structure with slide gates
Head Gate Count	2	2	2
Open at time of field visit	NA	Yes	NA
Head Gate Width Each	3.53 m	1.5 m	1.524 m
Head Gate Normal Operating Position	Unknown	Open	Unknown
Screen Type	Fine mesh screen at sluiceway/intake interface	None	Debris screen and trash rack at intake structure, then a rotating screen at pump house
Screen Condition	Good	NA	Good
Screen Height	about 2 m	NA	2.13 m
Screen Width	3.53 m	NA	53 cm
Screen Mesh Opening	2.5 cm x 7.5 cm mesh	NA	10.6 x 15.24 cm
Inlet Pipe at Headgate	pipe after pumps	NA	NA
Maximum Diversion Rate cfs		32	
Normal Diversion Rate cfs		32	33

APPENDIX A. continued (San Juan River).

Diversion Name	Fruitland Irrigation Canal	Farmers Mutual Ditch	Williams Field Service Kutz Plant
River Name	San Juan River	San Juan River	San Juan River
River Mile: San Juan River = from Lake Powell Animas River = from confluence with San Juan	178.4	179.6	195.6
State	NM	NM	NM
County	San Juan	San Juan	San Juan
Visit Date	8/20/15		NA
Visit Time	2:30 PM		NA
Visit Note	Field visit successfully completed.	Ditch operators did not indicate this was the primary diversion (See Farmers Mutual Ditch on Animas River)	Did not visit; collected data and physical information via phone and email.
Diversion/Discharge Data Available/Collected	Yes, daily average	No	Yes, monthly totals only
Entity	Navajo Nation, Dept. of Water Resources, Technical Construction and Operation Branch	Farmers Mutual Ditch Company	Williams Field Service/Williams Energy/Williams Companies, Inc.
Type of Entity	Tribal Nation	Ditch Association	Corporation
Type of Diversion	Agricultural Diversion	Agricultural Diversion	Industrial Diversion
Entity Address	PO Box 678, Fort Defiance, AZ 86504	PO Box 467 Kirtland, NM 87417	190 Road 4980, Bloomfield, NM 87413
ContactA_Name	Marlin Saggbay	Debra Currier & Danene Sherwood	Dave Quintana
ContactA_Title	Irrigation Supervisor		Manager, Technical Services
ContactA_Phone	5053681062	5055986159	5056324607
ContactA_AltPhone	5054067052	5053209646	5054866689
ContactA_Email	canal_dude@hotmail.com	sherwood7@me.com	david.quintana@williams.com
ContactB_Name			
ContactB_Title			
ContactB_Phone			
ContactB_AltPhone			
ContactB_Email			
Location (GPS Coordinates)	744549.8050 E 4068622.4464 N; Zone 12 N, NAD 83	747406.5108 E 4068101.6311 N; Zone 12 N, NAD 83	769062.2757 E 4065790.9174 N; Zone 12 N, NAD 83
Access Route	Indian Route 38 to 566		
Head/Grade Control Type (in main channel)	Boulders placed in main channel adjacent to diversion.	Aerial photograph indicates a substantial structure adjacent to headgate, likely comprised of larger boulders	NA
Head/Grade Control Condition	Fair/Function Impaired	Unknown	NA
Head/Grade Control Maintenance	Existing structure requires maintenance as boulders shift in channel. Improvements to diversion and grade control are in process.	Unknown	NA
Head/Grade Control Notes			
River Width at Diversion Channel Intake	45 m	50 m	16 m
River Width Notes	45 m wide main channel.		Measured from aerial photo. One of two main channels
Diversion Channel Intake Width	22 m	NA	2 m
Diversion Channel Intake Width Notes	22 m		The diversion inlet is a narrow, short ditch off of the main channel (which is in two sections)
Diversion Channel Intake Distance from Headgate	0		0
Diversion Channel Notes			
First Spillway Location	800 m downstream of diversion	Unknown	None
Spillway Type	Concrete structure with radial gate	Unknown	NA
Spillway Width	1.85 m	Unknown	NA
Head Gate Type	None (removed for improvements)	Unknown	Unknown
Head Gate Count		Unknown	Unknown
Open at time of field visit	Yes (removed for improvements)	NA	NA
Head Gate Width Each	None (removed for improvements)	NA	Unknown
Head Gate Normal Operating Position	Unknown	NA	Unknown
Screen Type	None	Unknown	Unknown
Screen Condition	NA	Unknown	Unknown
Screen Height	NA	Unknown	Unknown
Screen Width	NA	Unknown	Unknown
Screen Mesh Opening	NA	Unknown	Unknown
Inlet Pipe at Headgate	None	NA	Unknown
Maximum Diversion Rate cfs			Unknown
Normal Diversion Rate cfs	100		Unknown

APPENDIX A. continued (San Juan River).

Diversion Name	Western Refining	City of Bloomfield Second Source Diversion	Hammond Conservancy District
River Name	San Juan River	San Juan River	San Juan River
River Mile: San Juan River = from Lake Powell Animas River = from confluence with San Juan	196.3	197.9	209.3
State	NM	NM	NM
County	San Juan	San Juan	San Juan
Visit Date	8/20/15	8/20/15	NA
Visit Time	11:45 AM	10:00 AM	NA
Visit Note	Field visit successfully completed.	Field visit successfully completed.	Not visited; declined to participate
Diversion/Discharge Data Available/Collected	No	No	Yes, daily average
Entity	Western Refinery	City of Bloomfield	Hammond Conservancy District
Type of Entity	Corporation	Municipality	Conservancy District
Type of Diversion	Industrial Diversion	Municipal Diversion	Agricultural Diversion
Entity Address	50 CR4990, Bloomfield, NM 87413	915 N. First Street, Bloomfield, NM 87413	790 CR 4990, Bloomfield, NM 87413
ContactA_Name	Larry Hawkins	Teresa Brevik	Teresa Lane
ContactA_Title	Facility Manager	Special Projects Manager	
ContactA_Phone	5056324142	5056326352	5056323043
ContactA_AltPhone	5053306926	5052586316	5053209068
ContactA_Email	larry.hawkins@wnr.com	TBrevik@bloomfieldnm.com	hcd@peoplepc.com
ContactB_Name			
ContactB_Title			
ContactB_Phone			
ContactB_AltPhone			
ContactB_Email			
Location (GPS Coordinates)	770131.4564 E 4066017.0206 N; Zone 12 N, NAD 83	772140.6442 E 4067008.1759 N; Zone 12 N, NAD 83	784838.7049 E 4071430.2203 N; Zone 12 N, NAD 83
Access Route	Through Western Refining Facility		
Head/Grade Control Type (in main channel)	Native bed material	None	120 m long concrete head/grade control structure across river.
Head/Grade Control Condition	Good/Functioning	NA	Unknown
Head/Grade Control Maintenance	No regular maintenance required.	NA	Unknown
Head/Grade Control Notes			
River Width at Diversion Channel Intake	29 m	44 m	50 m
River Width Notes	29 m wide main channel.	44 m wide main channel.	Measured from aerial photo.
Diversion Channel Intake Width	6 m	1 m	5 m
Diversion Channel Intake Width Notes	6 m	1 m slide gate allows flow into intake structure, another 1 m gate controls flow in pipe to settling pond.	Measured from aerial photo.
Diversion Channel Intake Distance from Headgate	110 m	0	0
Diversion Channel Notes	The diversion channel returns to the main river channel, allowing for fish passage.		
First Spillway Location	NA	all flow that is not taken by pipe to settling pond returns immediately to river	Unknown
Spillway Type	NA	NA	Unknown
Spillway Width	NA	NA	Unknown
Head Gate Type	Pump House	Slide Gate	Unknown
Head Gate Count	2	1	Unknown
Open at time of field visit	Yes (but not pumping/diverting)	No	Unknown
Head Gate Width Each	2 m	1 m	Unknown
Head Gate Normal Operating Position	Unknown	Unknown	Unknown
Screen Type	Metal grid screen	None	Unknown
Screen Condition	Clean	NA	Unknown
Screen Height	2 m	NA	Unknown
Screen Width	4 m	NA	Unknown
Screen Mesh Opening	1 cm	NA	Unknown
Inlet Pipe at Headgate	Yes, unknown diameter	None	Unknown
Maximum Diversion Rate cfs	Unknown	Unknown	
Normal Diversion Rate cfs	Unknown	Unknown	

APPENDIX A. continued (San Juan River).

Diversion Name	Turley-Manzanares Ditch	Bloomfield Irrigation District	Jaquez Ditch
River Name	San Juan River	San Juan River	San Juan River
River Mile: San Juan River = from Lake Powell Animas River = from confluence with San Juan	214.4	217.8	NA
State	NM	NM	NM
County	San Juan	San Juan	San Juan
Visit Date	8/20/15	8/20/15	NA
Visit Time	10:00 AM	8:00 AM	NA
Visit Note	Field visit successfully completed.	Field visit successfully completed.	Not visited; same diversion as Bloomfield Irrigation District.
Diversion/Discharge Data Available/Collected	Yes, daily average	Yes, daily average	NA
Entity	Turley-Manzanares Ditch	Bloomfield Irrigation District	Jaquez Ditch
Type of Entity	Ditch Association	Irrigation District	Ditch Association
Type of Diversion	Agricultural Diversion	Agricultural Diversion	NA
Entity Address	211 Hwy 511, Blanco, NM 87412	P.O. Box 606, 1205 E. Broadway, Bloomfield, NM. 87413	San Juan River Outfitters and Livery Co., #200 Rd. 4599, Blanco, NM 87412
ContactA_Name	Steve Chavez	Stacy Dodd	John Jaquez
ContactA_Title		Office Coordinator	
ContactA_Phone	5056322112	5056322800	5056320250
ContactA_AltPhone			5756216158
ContactA_Email		bloomfield@qwestoffice.net	
ContactB_Name	Pat Montoya	Mike & Mike	
ContactB_Title	Ditch Rider, irrigator	Ditch Rider & Asst Ditch Rider	
ContactB_Phone	5053203296		
ContactB_AltPhone			
ContactB_Email			
Location (GPS Coordinates)	790818.8772 E 4073618.8535 N; Zone 12 N, NAD 83	792958.0423 E 4076841.5096 N; Zone 12 N, NAD 83	
Access Route		SH4277 past octagon inn, right on 4275 at fishing access point	
Head/Grade Control Type (in main channel)	100 m long total length, 30 m of poured concrete, remainder is mix of boulders (>2ft dia.) and cobbles placed in channel, partially vegetated, extends across most of the channel.	At inlet of diversion channel, push-up dam is constructed to keep big flow out during peak dam releases.	NA
Head/Grade Control Condition	Good/Functioning	Good/Functioning	NA
Head/Grade Control Maintenance	Requires maintenance about every other year in spring when water level is lowest.	Requires maintenance seasonally.	NA
Head/Grade Control Notes	There is a large pool formed at the headgate by the head/grade control structure. Significant flow overtops the head/grade control structure allowing for some fish passage.		NA
River Width at Diversion Channel Intake	40 m	52 m	NA
River Width Notes	40 m wide main channel.	52 m wide main channel.	NA
Diversion Channel Intake Width	17 m	18.5 m	NA
Diversion Channel Intake Width Notes	17 m	18.5 m	NA
Diversion Channel Intake Distance from Headgate	0	450 m	NA
Diversion Channel Notes		The spillway gates at the headgate normally remain open during diversion, allowing for some fish passage back to main river channel.	NA
First Spillway Location	At headgate	At headgate (main spillway), but several natural spillways along secondary channel above headgate.	NA
Spillway Type	Two slide gates, one 36" and one 24" (always closed).	Spillways used to maintain head in canal (3 1.9 m wide slide gates)	NA
Spillway Width	0.94 m	4.7 m	NA
Head Gate Type	Concrete structure with slide gate (36")	Non-operable headgates; operable spillway gates used to maintain head.	NA
Head Gate Count	1	5 open slots where gates used to be	NA
Open at time of field visit	Yes	Yes	NA
Head Gate Width Each	0.91 m	1 m	NA
Head Gate Normal Operating Position	Fully open	Open	NA
Screen Type	Trash rack/screen using about 5 mm wire	No fish screen. Existing trash rack	NA
Screen Condition	Good	NA	NA
Screen Height	6 ft from ground to top of screen	NA	NA
Screen Width	1.8 m	NA	NA
Screen Mesh Opening	10 cm x 10 cm	NA	NA
Inlet Pipe at Headgate	36" pipe for about 1,000 ft downstream of headgate	None	NA
Maximum Diversion Rate cfs			NA
Normal Diversion Rate cfs	6-6.7		NA

APPENDIX A. continued (San Juan River).

Diversion Name	La Pampa Ditch
River Name	San Juan River
River Mile: San Juan River = from Lake Powell Animas River = from confluence with San Juan	NA
State	NM
County	San Juan
Visit Date	NA
Visit Time	NA
Visit Note	Not visited; same diversion as Bloomfield Irrigation District.
Diversion/Discharge Data Available/Collected	NA
Entity	La Pampa Ditch
Type of Entity	Ditch Association
Type of Diversion	NA
Entity Address	662 CR 4599, Blanco NM 87412
ContactA_Name	Mario Ulibarri
ContactA_Title	
ContactA_Phone	5056322643
ContactA_AltPhone	
ContactA_Email	
ContactB_Name	
ContactB_Title	
ContactB_Phone	
ContactB_AltPhone	
ContactB_Email	
Location (GPS Coordinates)	
Access Route	
Head/Grade Control Type (in main channel)	NA
Head/Grade Control Condition	NA
Head/Grade Control Maintenance	NA
Head/Grade Control Notes	NA
River Width at Diversion Channel Intake	NA
River Width Notes	NA
Diversion Channel Intake Width	NA
Diversion Channel Intake Width Notes	NA
Diversion Channel Intake Distance from Headgate	NA
Diversion Channel Notes	NA
First Spillway Location	NA
Spillway Type	NA
Spillway Width	NA
Head Gate Type	NA
Head Gate Count	NA
Open at time of field visit	NA
Head Gate Width Each	NA
Head Gate Normal Operating Position	NA
Screen Type	NA
Screen Condition	NA
Screen Height	NA
Screen Width	NA
Screen Mesh Opening	NA
Inlet Pipe at Headgate	NA
Maximum Diversion Rate cfs	NA
Normal Diversion Rate cfs	NA

APPENDIX A. continued (Animas River).

Diversion Name	Farmers Mutual Ditch	Willett Ditch	North Farmington Ditch
River Name	Animas River	Animas River	Animas River
River Mile: San Juan River = from Lake Powell Animas River = from confluence with San Juan	0.4	3.5	4.6
State	NM	NM	NM
County	San Juan	San Juan	San Juan
Visit Date	8/19/15	8/19/15	8/19/15
Visit Time	11:00 AM	10:00 AM	8:30 AM
Visit Note	Field visit successfully completed.	Field visit successfully completed.	Field visit successfully completed.
Diversion/Discharge Data Available/Collected	Yes, daily average	Yes, daily average	Yes, daily average
Entity	Farmers Mutual Ditch Company	Willett Ditch operated by City of Farmington, Electric Utility	North Farmington Ditch
Type of Entity	Ditch Association	Municipality	Ditch Association
Type of Diversion	Agricultural Diversion	Agricultural & Municipal/Industrial Diversion	Agricultural Diversion
Entity Address	PO Box 467 Kirtland, NM 87417	101 N Browning Pkwy, Farmington, NM 87401	2114 W. Apache, Farmington, NM.
ContactA_Name	Debra Currier, Danene Sherwood	Richard Miller	Patty Baysinger
ContactA_Title		Generation Superintendent	
ContactA_Phone	5055986159	5055998304	5053251134
ContactA_AltPhone	5053209646	5055998411	5053303495
ContactA_Email	sherwood7@me.com	rmiller@fmrn.org	pattyb3654@yahoo.com
ContactB_Name		Anthony Chavez	Clinton Gooding
ContactB_Title		Operator	Ditch Rider
ContactB_Phone		5055998304	5053600039
ContactB_AltPhone			
ContactB_Email		achavez@fmrn.org	
Location (GPS Coordinates)	748674.5264 E 4066798.2675 N; Zone 12 N, NAD 83	752322.1377 E 4069117.7276 N; Zone 12 N, NAD 83	752826.1840 E 4069928.4039 N; Zone 12 N, NAD 83
Access Route		Follow service road past the riverside nature center parking lot. Gate Access required. Diversion located on city park land.	Travel down road next to feed store. Take left at bottom of the hill. Diversion off of secondary channel behind Sinclair Gas Station.
Head/Grade Control Type (in main channel)	Head/grade control adjacent to and extending upstream from headgate structure, comprised of native bed material. May be a natural river feature.	Concrete and large diameter boulders (>4 ft dia.) as part of river park/kayak area	Large cobble and bed material, visible from behind Farmington Museum.
Head/Grade Control Condition	Good/Functioning	Good/Functioning	Good/Functioning
Head/Grade Control Maintenance	Does not appear to need maintenance.	Does not appear to need maintenance.	Typically needs maintenance 1-2 times per year.
Head/Grade Control Notes			
River Width at Diversion Channel Intake	56 m	12 m	27 m
River Width Notes	56 m wide main channel; 26 m wide wetted channel at time of field visit.	12 m wide main channel at diversion; widens immediately downstream of "kayak course".	27 m main channel.
Diversion Channel Intake Width	NA	13 m	9
Diversion Channel Intake Width Notes	No separate intake channel	13 m wide at intake of diversion channel.	9 m wide diversion channel.
Diversion Channel Intake Distance from Headgate	0	93 m	200 m
Diversion Channel Notes		There is no fish passage to allow escape from the diversion channel upstream of the headgate, except back upstream.	There is no fish passage to allow escape from the diversion channel upstream of the headgate, except back upstream.
First Spillway Location	Further than 200 m downstream of headgate	Downstream of headgate	At headgate
Spillway Type	Unknown	Unknown	Concrete structure with radial gates
Spillway Width	Unknown	Unknown	2.44 m
Head Gate Type	Square slide gates	Concrete structure with slide gates	Concrete structure with radial gate and spillway gate
Head Gate Count	2	5	1
Open at time of field visit	Yes	3/5 Yes	Yes
Head Gate Width Each	2 m	1.5 m	2.4 m
Head Gate Normal Operating Position	Varies based on river stage	Unknown	Fully open
Screen Type	None	None	None
Screen Condition	NA	NA	NA
Screen Height	NA	NA	NA
Screen Width	NA	NA	NA
Screen Mesh Opening	NA	NA	NA
Inlet Pipe at Headgate	None	None	NA
Maximum Diversion Rate cfs	110		
Normal Diversion Rate cfs	85		

APPENDIX A. continued (Animas River).

Diversion Name	Farmington-Echo-Allen Ditch	City of Farmington Animas Pump Station No. 2	Ranchmans Ditch
River Name	Animas River	Animas River	Animas River
River Mile: San Juan River = from Lake Powell Animas River = from confluence with San Juan	6.1	9.5	10.8
State	NM	NM	NM
County	San Juan	San Juan	San Juan
Visit Date	8/19/15	NA	8/18/15
Visit Time	1:00 PM	NA	5:24 PM
Visit Note	Only visited head/grade control structure at confluence with main river channel. First spillway downstream was on locked private property.	Not visited; collected data via email.	Field visit successfully completed.
Diversion/Discharge Data Available/Collected	Yes, daily average	Yes, daily average	Yes, daily average
Entity	Farmington-Echo Ditch Company	City of Farmington	Ranchmans Ditch
Type of Entity	Ditch Association	Municipality	Ditch Association
Type of Diversion	Agricultural Diversion	Municipal Diversion	Agricultural Diversion
Entity Address	PO Box 2935, Farmington, NM 87499	101 N Browning Pkwy, Farmington, NM 87401	c/o Sam Gonzales at Los Hermanitos Restaurant, 3501 East Main St # A Farmington, NM 87402
ContactA_Name	Tommy Bolack	Paul Montoya	Sam Gonzales
ContactA_Title		Water Resources Manager	
ContactA_Phone	5053254275/5053257255	5055991394	5053202213
ContactA_AlternatePhone	5053600518		
ContactA_Email			iamhispappa@yahoo.com
ContactB_Name	Tom Easley		
ContactB_Title	Ditch Rider		
ContactB_Phone	5053279560		
ContactB_AlternatePhone	5053306099		
ContactB_Email			
Location (GPS Coordinates)	755039.2151 E 4071405.8102 N; Zone 12 N, NAD 83	758588.4862 E 4074720.8277 N; Zone 12 N, NAD 83	760333.7449 E 4075234.5499 N; Zone 12 N, NAD 83
Access Route			
Head/Grade Control Type (in main channel)	Push-up dam of native bed/bank material, constructed across the entire river. Evident bank erosion and rip-rap of larger concrete pieces on opposite side of river.	Concrete structure across entire river channel; approximately 1 m high.	Head/grade control push-up dam comprised of river bed material, large cobbles. Located 41 m downstream of headgate along main channel.
Head/Grade Control Condition	Fair/Function Impaired	Good/Functioning	Fair/Functioning with high maintenance
Head/Grade Control Maintenance	Requires frequent maintenance, particularly after spring runoff.	None	Typically needs maintenance with heavy equipment annually.
Head/Grade Control Notes	The head/grade control push up dam stretches all the way across the river, and impedes fish passage.		The head/grade control dam extends across the entire channel, is several feet higher than downstream bed elevation, and may be an impediment to fish passage.
River Width at Diversion Channel Intake	40 m	63 m	31 m
River Width Notes	40 m wide main channel.	Measured from aerial photo.	31 m wide main channel.
Diversion Channel Intake Width	12 m	NA	NA
Diversion Channel Intake Width Notes	12 m		Diversion structure and head gates are located on main river channel bank, with only a head/grade control dam adjacent to diversion. No diversion
Diversion Channel Intake Distance from Headgate	Unknown	0	0
Diversion Channel Notes			
First Spillway Location	Unknown	NA	First spillway downstream of headgate, another spillway further downstream, upstream of NMOSE gate.
Spillway Type	Unknown	NA	Unknown
Spillway Width	Unknown	NA	Unknown
Head Gate Type	Unknown	Pipe diversion	Concrete structure with slide gate
Head Gate Count	Unknown	NA	1
Open at time of field visit	Unknown	NA	Yes
Head Gate Width Each	Unknown	NA	7.2 m
Head Gate Normal Operating Position	Unknown	NA	Fully open
Screen Type	Unknown	Unknown	None
Screen Condition	NA	Unknown	NA
Screen Height	NA	Unknown	NA
Screen Width	NA	Unknown	NA
Screen Mesh Opening	NA	Unknown	NA
Inlet Pipe at Headgate	None	Yes	36" diameter, 20 ft long pipe, then open ditch
Maximum Diversion Rate cfs			8.63
Normal Diversion Rate cfs			

APPENDIX A. continued (Animas River).

Diversion Name	Halford-Independent Ditch	Kello-Blancett Ditch	Eledge Mill Ditch
River Name	Animas River	Animas River	Animas River
River Mile: San Juan River = from Lake Powell Animas River = from confluence with San Juan	15.3	16.8	19.8
State	NM	NM	NM
County	San Juan	San Juan	San Juan
Visit Date	8/18/15	8/18/15	8/18/15
Visit Time	11:30 AM	11:00 AM	1:00 PM
Visit Note	Field visit successfully completed.	Field visit successfully completed.	Field visit successfully completed.
Diversion/Discharge Data Available/Collected	Yes, daily average	Yes, daily average	Yes, daily average
Entity	Halford Ditch/Halford-Independent Ditch	Kello-Blancett Ditch	Eledge Ditch Company
Type of Entity	Ditch Association	Ditch Association	Ditch Association
Type of Diversion	Agricultural Diversion	Agricultural Diversion	Agricultural Diversion
Entity Address	PO Box 42, Flora Vista, NM 87415-0042	PO Box 505, Aztec, NM 87410	PO Box 261, Flora Vista, NM 87415
ContactA_Name	Joe Jaquez	Shirley Shelby	Olan and Valerie Hopper
ContactA_Title	Director		
ContactA_Phone	5053272958	5053342484	5052150513
ContactA_AltPhone			
ContactA_Email		sashelby@gmail.com	ValerieHopper54@gmail.com
ContactB_Name	Ron Williams		
ContactB_Title	Ditch Rider		
ContactB_Phone	5052158945		
ContactB_AltPhone			
ContactB_Email			
Location (GPS Coordinates)	765308.9128 E 4078627.0493 N; Zone 12 N, NAD 83	766766.1919 E 4079106.3329 N; Zone 12 N, NAD 83	767879.1643 E 4080319.8019 N; Zone 12 N, NAD 83
Access Route	Off of west Aztec Blvd, West of Town	We accessed the diversion from the Aztec sports complex. Difficult access over private property.	
Head/Grade Control Type (in main channel)	Native bed material in main channel; diversion channel berm is vegetated; adjacent to headgate head/grade control dam has eroded	Older structure exists in main channel. Secondary diversion/channel has concrete weir, and the elevation of the control has been raised using wooden boards supported by vertical steel rods.	Boulders/rocks; 18 m long, extending out into channel, but not to the opposite other bank.
Head/Grade Control Condition	Fair/Function Impaired	Fair/Function Impaired	Good/Functioning
Head/Grade Control Maintenance	Head/grade control in main channel not maintained, at least not in recent memory. Head/grade control in diversion channel adjacent to head gate requires regular maintenance.	Secondary/diversion channel structure needs frequent maintenance.	Last maintained about 10 years ago.
Head/Grade Control Notes	Head/grade control in diversion channel adjacent to head gate is an impediment to fish passage.	The head/grade control structure built across the width of the diversion channel is an impediment to fish passage.	
River Width at Diversion Channel Intake	46 m	20 m	45 m
River Width Notes	46 m wide main channel.	main river 20 m wide at time of visit; main channel thalweg approximately 6 m from diversion.	45 m wide main channel.
Diversion Channel Intake Width	6 m	7 m	10 m
Diversion Channel Intake Width Notes	6 m wide diversion channel.	7 m	10 m
Diversion Channel Intake Distance from Headgate	53 m	40 m	0
Diversion Channel Notes	There is no fish passage to allow escape from the diversion channel upstream of the headgate, except back upstream.	There is no fish passage to allow escape from the diversion channel upstream of the headgate, except back upstream.	
First Spillway Location	Upstream of headgate is the spillway/return channel that was plugged at the time of field visit; air photos indicate the secondary return channel normally flows.	At headgate	Downstream of headgate
Spillway Type	At time of visit, completely plugged with a push up dam. No flow through spillway. Historically may have flowed.	Square slide gate	Native bed material
Spillway Width	NA	1.3 m	0.6 m
Head Gate Type	Concrete structure with radial gate	Concrete structure with slide gates	Concrete structure with slide gate
Head Gate Count	1	2	1
Open at time of field visit	Yes	Yes	Yes
Head Gate Width Each	2.5 m	0.75 m	1.5 m
Head Gate Normal Operating Position	Unknown	Unknown	Fully open
Screen Type	No screen, trash rack located downstream of headgate.	None	None
Screen Condition	NA	NA	NA
Screen Height	NA	NA	NA
Screen Width	NA	NA	NA
Screen Mesh Opening	NA	NA	NA
Inlet Pipe at Headgate	None	NA	4 ft dia., for ca. 25 ft, then open ditch
Maximum Diversion Rate cfs	7.5		8.3
Normal Diversion Rate cfs			

APPENDIX A. continued (Animas River).

Diversion Name	Farmers Irrigation District	Lower Animas Ditch	Sargent Ditch
River Name	Animas River	Animas River	Animas River
River Mile: San Juan River = from Lake Powell Animas River = from confluence with San Juan	21.4	21.8	24.6
State	NM	NM	NM
County	San Juan	San Juan	San Juan
Visit Date	8/18/15	8/20/15	NA
Visit Time	2:00 PM	8:00 AM	NA
Visit Note	Field visit successfully completed.	Field visit successfully completed.	Not visited; did not return call.
Diversion/Discharge Data Available/Collected	Yes, daily average	Yes, daily average	Yes, daily average
Entity	Farmers Irrigation District	Lower Animas Community Ditch	Sargent Ditch
Type of Entity	Irrigation District	Ditch Association	Ditch Association
Type of Diversion	Agricultural Diversion	Agricultural Diversion	Agricultural Diversion
Entity Address	PO Box 261, Aztec, NM 87410	PO Box 404, Aztec, NM 87410	445 CR 2900, Aztec, NM 87410
ContactA_Name	Dennis Taylor	Earnest Smith	Leon Knowlton
ContactA_Title		Ditch Rider, irrigator	
ContactA_Phone	5053300274	5052152907	5053346051
ContactA_AlterPhone			
ContactA_Email		earnestsmith@yahoo.com	
ContactB_Name			
ContactB_Title			
ContactB_Phone			
ContactB_AlterPhone			
ContactB_Email			
Location (GPS Coordinates)	770455.0274 E 4084759.3734 N; Zone 12 N, NAD 83	770961.4524 E 4085142.9072 N; Zone 12 N, NAD 83	773548.8158 E 4088023.1746 N; Zone 12 N, NAD 83
Access Route	CR 2845, turn left after crossing ditch. Follow ditch to diversion.		
Head/Grade Control Type (in main channel)	Concrete diversion dam across river; built around 2005-2007 with assistance from City of Farmington.	Large boulders and native bed material.	Large boulders and native bed material.
Head/Grade Control Condition	Good/Functioning	Good/Functioning	Unknown
Head/Grade Control Maintenance	None	Requires maintenance every 1-2 years.	Unknown
Head/Grade Control Notes	Concrete head/grade control weir across main river channel is likely an impediment to fish movement upstream.		
River Width at Diversion Channel Intake	61 m	56 m	35 m
River Width Notes	61 m wide main channel.	56 m wide main channel.	Measured from aerial photo.
Diversion Channel Intake Width	4 m	7 m	5 m
Diversion Channel Intake Width Notes	Two gates: one 1.2 m wide, the other 2.5 m wide. Additional flow control available at spillway located approximately 95 m downstream from intake.	7 m	Measured from aerial photo.
Diversion Channel Intake Distance from Headgate	0	0	0
Diversion Channel Notes			
First Spillway Location	Immediately downstream of headgate	At headgate	Unknown
Spillway Type	Radial gate	Slide gate	Unknown
Spillway Width	3 m (closed at time of field visit)	3 m	Unknown
Head Gate Type	Concrete structure with slide gates	Concrete structure with radial headgate and spillway	Unknown
Head Gate Count	2	1	Unknown
Open at time of field visit	Yes	Yes	NA
Head Gate Width Each	3.7 m	3 m	Unknown
Head Gate Normal Operating Position	Unknown	Half open	Unknown
Screen Type	None	None	Unknown
Screen Condition	NA	NA	Unknown
Screen Height	NA	NA	Unknown
Screen Width	NA	NA	Unknown
Screen Mesh Opening	NA	NA	Unknown
Inlet Pipe at Headgate	NA	NA	Unknown
Maximum Diversion Rate cfs	80		
Normal Diversion Rate cfs	55	65	

APPENDIX A. continued (Animas River).

Diversion Name	Aztec Ditch	Stacey Ditch	Graves-Atterberry (Inca) Ditch
River Name	Animas River	Animas River	Animas River
River Mile: San Juan River = from Lake Powell Animas River = from confluence with San Juan	27.4	29.6	31.7
State	NM	NM	NM
County	San Juan	San Juan	San Juan
Visit Date	NA	8/18/15	NA
Visit Time	NA	4:00 PM	NA
Visit Note	Not visited; did not return call.	Field visit successfully completed.	Not visited; declined to participate.
Diversion/Discharge Data Available/Collected	Yes, daily average	Yes, daily average	Yes, daily average
Entity	Aztec Ditch	Stacey Ditch	Graves-Atterberry Ditch
Type of Entity	Ditch Association	Ditch Association	Ditch Association
Type of Diversion	Agricultural Diversion	Agricultural Diversion	Agricultural Diversion
Entity Address	28 CR 2800, Aztec, NM 87410	c/o Misty Wright, 649 CR Road 2900, Aztec, NM 87410	PO Box 144, Aztec, NM 87401
ContactA_Name	Susan Hare	Helen Root	Bill Moss
ContactA_Title			
ContactA_Phone	5053346113	5053341568	5053349093
ContactA_AlthPhone			
ContactA_Email			billmossinc00@msn.com
ContactB_Name		Mike Currothers and Misty Wright	
ContactB_Title		Ditch Rider	
ContactB_Phone		5053346061	
ContactB_AlthPhone		5057936061	
ContactB_Email		mkbj_carruthers@live.com; dochooliday09@q.com	
Location (GPS Coordinates)	775254.1092 E 4090556.1266 N; Zone 12 N, NAD 83	777243.9549 E 4091665.2302 N; Zone 12 N, NAD 83	777604.4845 E 4093605.4341 N; Zone 12 N, NAD 83
Access Route			
Head/Grade Control Type (in main channel)	Large boulders and native bed material.	Larger rocks and native bed material across most of main river channel.	Large cobble bar in main channel.
Head/Grade Control Condition	Unknown	Good/Functioning	Unknown
Head/Grade Control Maintenance	Unknown	None	Unknown
Head/Grade Control Notes			
River Width at Diversion Channel Intake	45 m	41 m	55 m
River Width Notes	Measured from aerial photo.	41 m wide main channel. Thalweg in middle of channel.	Measured from aerial photo.
Diversion Channel Intake Width	7 m	15 m	3 m
Diversion Channel Intake Width Notes	Measured from aerial photo.	15 m wide diversion channel	Measured from aerial photo.
Diversion Channel Intake Distance from Headgate	0	700 m	0
Diversion Channel Notes		There diversion channel berm has eroded in several locations, and spill way is at headgate, both allowing for some fish passage back to main channel.	
First Spillway Location	Unknown	At headgate	Unknown
Spillway Type	Unknown	Slide gate	Unknown
Spillway Width	Unknown	1.93 m	Unknown
Head Gate Type	Unknown	Concrete structure with slide gate	Unknown
Head Gate Count	Unknown	1	Unknown
Open at time of field visit	NA	Yes	NA
Head Gate Width Each	Unknown	1.8 m	Unknown
Head Gate Normal Operating Position	Unknown	Unknown	Unknown
Screen Type	Unknown	None	Unknown
Screen Condition	Unknown	NA	Unknown
Screen Height	Unknown	NA	Unknown
Screen Width	Unknown	NA	Unknown
Screen Mesh Opening	Unknown	NA	Unknown
Inlet Pipe at Headgate	Unknown	NA	Unknown
Maximum Diversion Rate cfs			
Normal Diversion Rate cfs			

APPENDIX A. continued (Animas River).

Diversion Name	Cedar Ditch	Ralston Ditch	Twin Rock Ditch
River Name	Animas River	Animas River	Animas River
River Mile: San Juan River = from Lake Powell Animas River = from confluence with San Juan	33.8	38.1	39.7
State	NM	CO	CO/NM
County	San Juan	La Plata	La Plata, CO/San Juan, NM
Visit Date	8/18/15	NA	8/17/15
Visit Time	3:00 PM	NA	4:20 PM
Visit Note	Field visit successfully completed.	Not visited; not available for site visit, requires access to private land.	Field visit successfully completed.
Diversion/Discharge Data Available/Collected	Yes, daily average	Yes, daily average	Yes, daily average
Entity	Cedar Ditch	Ralston Ditch	Twin Rocks Ditch Company
Type of Entity	Ditch Association	Ditch Association	Ditch Association
Type of Diversion	Agricultural Diversion	Agricultural Diversion	Agricultural Diversion
Entity Address	PO Box 1382, Aztec, NM 87410	PO Box 295, Farmington, NM 87499	P.O. Box 731 Aztec, NM. 87410
ContactA_Name	Michael Schwebach	Mr. Linn and Tweety Blancett	John Saul
ContactA_Title			Ditch commissioner, treasurer, secretary
ContactA_Phone	5053345111	5052151201	2817700041
ContactA_AltPhone	5053213252	5052151200	
ContactA_Email	mdschwebach@gmail.com		
ContactB_Name		Ray Kaiser	Brian Bills
ContactB_Title			Mayor Domo
ContactB_Phone			5053201475
ContactB_AltpPhone			
ContactB_Email			
Location (GPS Coordinates)	778526.7406 E 4095691.5900 N; Zone 12 N, NAD 83	778277.8187 E 4101439.4984 N; Zone 12 N, NAD 83	777966.9185 E 4103445.6759 N; Zone 12 N, NAD 83
Access Route	End of county Rd 2125, past house		
Head/Grade Control Type (in main channel)	Boulders, rocks, concrete highway barriers, supported by steel railroad rails driven vertically, exposed above water surface.	Large boulders and native bed material across most of main river channel.	Large diameter boulders (>2ft dia.) and cobbles placed across channel.
Head/Grade Control Condition	Fair/Functioning but vertical steel supports are a safety hazard.	Unknown	Good/Functioning
Head/Grade Control Maintenance	Requires frequent maintenance, after spring flows.	Unknown	Requires maintenance about every other year.
Head/Grade Control Notes	Head control/grade structure poses a safety hazard to boaters/fishermen.		
River Width at Diversion Channel Intake	44 m	64 m	47 m
River Width Notes	44 m wide main channel.	Measured from aerial photo.	47 m wide main channel.
Diversion Channel Intake Width	NA - no separate diversion channel	5 m	5 m
Diversion Channel Intake Width Notes	Diversion structure is located on river bank, adjacent to head/grade control structure.	Measured from aerial photo.	5 m
Diversion Channel Intake Distance from Headgate	0	0	0
Diversion Channel Notes			
First Spillway Location	Approximately 400 m downstream of headgate.	Unknown	Downstream of headgate
Spillway Type	Unknown	Unknown	Unknown
Spillway Width	Unknown	Unknown	Unknown
Head Gate Type	Concrete structure with slide gate	Unknown	Concrete structure with slide gate
Head Gate Count	1	Unknown	1
Open at time of field visit	Yes	NA	Yes
Head Gate Width Each	1 m	Unknown	0.91 m
Head Gate Normal Operating Position	Unknown	Unknown	Unknown
Screen Type	None	Unknown	No fish screen. Existing trash rack (1.53 m width, 26 cm openings).
Screen Condition	NA	Unknown	NA
Screen Height	NA	Unknown	NA
Screen Width	NA	Unknown	1.53 m
Screen Mesh Opening	NA	Unknown	
Inlet Pipe at Headgate	NA	Unknown	NA
Maximum Diversion Rate cfs			
Normal Diversion Rate cfs			

APPENDIX A. continued (Animas River).

Diversion Name	Citizens-Animas Ditch	Dena Ditch_Little Fishes Wildlife Habitat Enhancement Project	Cason Ditch
River Name	Animas River	Animas River	Animas River
River Mile: San Juan River = from Lake Powell Animas River = from confluence with San Juan	48.0	48.9	53.5
State	CO	CO	CO
County	La Plata	La Plata	La Plata
Visit Date	NA	8/17/15	8/17/15
Visit Time	NA	3:00 PM	5:00 PM
Visit Note	Not visited; did not return call.	Field visit successfully completed.	Field visit successfully completed.
Diversion/Discharge Data Available/Collected	Yes, daily average	No	Yes, daily average
Entity	Citizens-Animas Ditch	Little Fishes LLC.	Cason Ditch
Type of Entity	Ditch Association	Individual/Company	Ditch Association
Type of Diversion	Agricultural Diversion	Recreational Diversion	Agricultural Diversion
Entity Address	Unknown	536 CR307, Durango, CO. 81301	11202 Co Rd 213, Durango, CO 81303
ContactA_Name	Tom Bonds	Lonnie Malouff	Shirley Isgar & David Alfred
ContactA_Title			Irrigator
ContactA_Phone	9702593950	9702592463	9703854537
ContactA_AltPhone		9707595555	9703855069
ContactA_Email			blueakeranch@gmail.com
ContactB_Name	Chad McKee	Dena Malouff	John Huff
ContactB_Title	Board member		Irrigator
ContactB_Phone			9707491455
ContactB_AltpPhone			
ContactB_Email			
Location (GPS Coordinates)	776115.2753 E 4114560.2497 N; Zone 12 N, NAD 83	776487.5193 E 4115538.7099 N; Zone 12 N, NAD 83	778550.6090 E 4121135.0929 N; Zone 12 N, NAD 83
Access Route		one mile south of the Weaselskin Bridge on La Posta Road (County Road 213)	
Head/Grade Control Type (in main channel)	Approximate 80 m long partially vegetated (willow & grass), earthen berm upstream of headgate. At the furthest extent of the vegetated berm, a head/grade control comprised of native bed material extends across most of the rest of the channel.	15 m long weir comprised of large diameter boulders (>2ft dia.) and cobbles placed in channel; does not extend completely across channel	Approximate 225 m long partially vegetated (willow & grass), earthen berm upstream of headgate Native bed material, does not extend across river channel.
Head/Grade Control Condition	Unknown	Good/Functioning	Good/Functioning
Head/Grade Control Maintenance	Unknown	None	Not maintained, at least not in recent memory
Head/Grade Control Notes			
River Width at Diversion Channel Intake	55 m	21 m	41 m
River Width Notes	Measured from aerial photo.	21 m wide main channel.	41 m wide main channel.
Diversion Channel Intake Width	5 m	7 m	5 m
Diversion Channel Intake Width Notes	Measured from aerial photo.	7 m	5 m
Diversion Channel Intake Distance from Headgate	90 m	0	0
Diversion Channel Notes			
First Spillway Location	Unknown	None	At headgate
Spillway Type	Unknown	NA	Concrete and large rocks, no gate.
Spillway Width	Unknown	NA	3 m
Head Gate Type	Unknown	Slide gate (circular 16") mounted on 16" pipe along bank of main river channel.	Earthen and concrete structure with wheel operated slide gate (24")
Head Gate Count	Unknown	1	1
Open at time of field visit	NA	Yes	Yes
Head Gate Width Each	Unknown	0.4 m	0.6 m
Head Gate Normal Operating Position	Unknown	Fully open	Unknown
Screen Type	Unknown	None	None
Screen Condition	Unknown	NA	NA
Screen Height	Unknown	NA	NA
Screen Width	Unknown	NA	NA
Screen Mesh Opening	Unknown	NA	NA
Inlet Pipe at Headgate	Unknown	16 in diameter	24" for about 100 ft, then open ditch
Maximum Diversion Rate cfs			
Normal Diversion Rate cfs		2	

APPENDIX A. continued (Animas River).

Diversion Name	East Mesa Ditch	USBR Animas-La Plata Project Lake Nighthorse Diversion	City of Durango Santa Rita Diversion
River Name	Animas River	Animas River	Animas River
River Mile: San Juan River = from Lake Powell Animas River = from confluence with San Juan	55.1	59.8	60.2
State	CO	CO	CO
County	La Plata	La Plata	La Plata
Visit Date	8/18/15	8/17/15	8/17/15
Visit Time	10:00 AM	1:00 PM	2:00 PM
Visit Note	Field visit successfully completed.	Field visit successfully completed.	Field visit successfully completed.
Diversion/Discharge Data Available/Collected	Yes, daily average	Yes, daily average	Yes, monthly totals only
Entity	East Mesa Ditch Company	USBR, Western Colorado Area Office	City of Durango
Type of Entity	Ditch Association	Federal Agency	Municipality
Type of Diversion	Agricultural Diversion	Agricultural Diversion	Municipal Diversion
Entity Address	1550 CR 215, Durango, CO 81303	185 Suttle Street, Suite 2, Durango, CO 81303	105 Sawyer Dr., Durango, CO 81303
ContactA_Name	Kevin McCulloch	Tyler Artichocker	Matt Holden
ContactA_Title	Ditch Rider	Chief, Facilities Maintenance Group	Utilities Engineer
ContactA_Phone	9702474736	9703856557	9703754813
ContactA_AlternatePhone	9707498499	9707593277	9703175721
ContactA_Email	kmcculloch@animas.net	Tartichocker@usbr.gov	matt.holden@durangogov.org
ContactB_Name		Jim Darling	
ContactB_Title		WCAO/FCCO, Mechanical Engineering Tech	
ContactB_Phone		9703856516	
ContactB_AlternatePhone		9707495125	
ContactB_Email		jdarding@usbr.gov	
Location (GPS Coordinates)	779796.5748 E 4122284.0092 N; Zone 12 N, NAD 83	776897.9577 E 4128196.0389 N; Zone 12 N, NAD 83	776571.3938 E 4128735.8518 N; Zone 12 N, NAD 83
Access Route	Trestle Ln off of frontage road across River Road from Durango Home Depot. Downstream of wastewater treatment plant (behind gate).	Behind fence on USBR property. Contact USBR. 125 Smeiter Place	Behind sewer treatment plant. Accessible from public trail along Animas river. Downstream of Santa Rita boat ramp that is used during competitions.
Head/Grade Control Type (in main channel)	Approximate 160 m long partially vegetated (willow & grass), earthen berm upstream of headgate, does not extend across river channel.	Boulders and native bed material installed across channel just downstream of diversion intake, presumably at the time of the project construction.	Large diameter boulders (>3ft dia.) and cobbles placed in channel; does not extend completely across channel.
Head/Grade Control Condition	Good/Functioning	Good/Functioning	Fair/Functioning but main channel thalweg is moving away from the diversion over time, as evidenced by cut bank on opposite side of river. City is discussing efforts to keep river near diversion on river left, including permanent weir across river.
Head/Grade Control Maintenance	Requires occasional maintenance	None	City performed maintenance in 2015.
Head/Grade Control Notes			
River Width at Diversion Channel Intake	37 m	37 m	57 m
River Width Notes	37 m wide channel at diversion channel inlet, 54 m wide main channel at intake structure.	37 m wide main channel.	57 m wide main channel.
Diversion Channel Intake Width	20 m	11.7 m	3.65 m
Diversion Channel Intake Width Notes	20 m	Three 3.9 m (14 ft) with solid "bulkheads" comprise the intake; gate adjusted using an obermeyer bladder system. Intake flows are perpendicular to river flow.	3.65 m
Diversion Channel Intake Distance from Headgate	1 m	0	15 m
Diversion Channel Notes			The boulders that comprise the relatively short "diversion channel" allow fish passage back to the main channel.
First Spillway Location	At headgate	Fish passage return, downstream of diversion structure.	NA
Spillway Type	Boulder grade control	Slide gate controls flow in fish passage return via 36" HDPE pipe.	NA
Spillway Width	4 m	0.91 m	NA
Head Gate Type	Concrete structure with slide gates (36")	Bladder-obermeyer gate and solid metal doors to eliminate all flow.	Concrete structure with trash rack (8 cm), square 1 m slide gate, leading into 3 ft diameter pipe gravity feed to Santa Rita Pump Station
Head Gate Count	2	3	1
Open at time of field visit	No (water returned to river via spillway)	Yes	No
Head Gate Width Each	0.91 m	4.27 m	1 m
Head Gate Normal Operating Position	Unknown	Varies based on river stage	Fully open
Screen Type	No fish screen. Existing trash rack (horizontal, skims surface).	Trash rack and fish screen (1 cm mesh opening)	No fish screen. Existing trash rack (8 cm pipe spacing).
Screen Condition	NA	Well maintained, automatic brushes.	clean
Screen Height	NA	about 2 m	NA
Screen Width	NA	about 10 m	NA
Screen Mesh Opening	NA	2 mm screen opening (0.069"); trash rack spacing 5 cm (0.18')	NA
Inlet Pipe at Headgate	two 36" diameter intake pipes	NA	36" diameter
Maximum Diversion Rate cfs	27	280	
Normal Diversion Rate cfs			